



General

Guideline Title

Guidelines of care for the management of primary cutaneous melanoma.

Bibliographic Source(s)

Bichakjian CK, Halpern AC, Johnson TM, Foote Hood A, Grichnik JM, Swetter SM, Tsao H, Barbosa VH, Chuang TY, Duvic M, Ho VC, Sober AJ, Beutner KR, Bhushan R, Smith Begolka W, American Academy of Dermatology. Guidelines of care for the management of primary cutaneous melanoma. J Am Acad Dermatol. 2011 Nov;65(5):1032-47. [143 references] [PubMed](#)

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Guidelines of care for primary cutaneous melanoma. J Am Acad Dermatol 2001 Oct;45(4):579-86. [44 references]

Recommendations

Major Recommendations

Level of evidence grades (I-III) and strength of recommendations (A-C) are defined at the end of the "Major Recommendations" field.

Table: Strength of Recommendations for Management of Primary Cutaneous Melanoma

	Strength of Recommendation	Level of Evidence	References
Biopsy	B	II	Stell et al., 2007; Karimpour et al., 2005; Austin et al., 1996; Ng et al., 2010; Pariser, Divers, & Nassar, 1999; Ng et al., 2003; Armour, Mann, & Lee, 2005; Bong, Herd, & Hunter, 2002; Lederman & Sober, 1985; Lees & Briggs, 1991; Martin et al., 2005
Pathology Report:			
Clinical Information	A	I-II	Corona et al, 1994; Mansson-Brahme et al., 1994; Schuchter et al., 1996; Halpern, & Schuchter, 1997; Gimotty et al., 2004; Massi et al., 1999; Francken et al., 2004; Nagore et al., 2005; Leiter et al., 2004;

	Strength of Recommendation	Level of Evidence	References
Tumor (Breslow) thickness	A	I-II	Cochran et al., 2000; Balch et al., 2000; Levi et al., 1998; Sahin et al., 1997; Straume & Akslen, 1996; Eldh, Boeryd, & Peterson, 1978
Ulceration	A	I-II	Balch et al., 2009; Corona et al., 1994; Nagore et al., 2005; Cochran et al., 2000; Balch et al., 2000; Eldh, Boeryd, & Peterson, 1978; Barnhill et al., 2005; Barnhill et al., 1996; Marghoob et al., 2000; Massi et al., 2000; Eigentler et al., 2004; Thorn et al., 1996; Clemente et al., 1996; Taran & Heenan, 2001
Mitotic rate	A	I-II	Balch et al., 2009; Halpern & Schuchter, 1997; Gimotty et al., 2004; Francken et al., 2004; Nagore et al., 2005; Eldh, Boeryd, & Peterson, 1978; Clark et al., 1989; Barnhill et al., 1996; Azzola et al., 2003; Massi et al., 2000
Level of invasion (Clark)	B	II	Balch et al., 2009; Mansson-Brahme et al., 1994; Halpern & Schuchter, 1997; Gimotty et al., 2004; Massi et al., 1999; Nagore et al., 2005; Straume & Akslen, 1996; Eldh, Boeryd, & Peterson, 1978; Clark et al., 1989; Barnhill et al., 1996; Marghoob et al., 2000; Thorn et al., 1996
Microsatellitosis	B	I-II	Balch et al., 2009; Nagore et al., 2005; Barnhill et al., 1996; Kimsey et al., 2009; Shaikh et al., 2005; Rao et al., 2002
Angiolymphatic invasion	B	II	Nagore et al., 2005; Straume & Akslen, 1996; Barnhill et al., 1996; Massi et al., 2000
Histologic subtype	B	II	Halpern & Schuchter, 1997; Massi et al., 1999; Leiter et al., 2004; Levi et al., 1998; Barnhill et al., 1996; Massi et al., 2000
Regression	B	II	Mansson-Brahme et al., 1994; Halpern & Schuchter, 1997; Clark et al., 1989; Barnhill et al., 1996; Taran & Heenan, 2001
Tumor-infiltrating lymphocytes	B	II	Mansson-Brahme et al., 1994; Halpern & Schuchter, 1997; Massi et al., 1999; Clark et al., 1989; Thorn et al., 1996; Clemente et al., 1996
Staging workup	B	II-III	Wang et al., 2004; Fogarty & Tartaglia, 2006; Miranda et al., 2004; Hafner et al., 2004; Yancovitz et al., 2007; Hofmann et al., 2002; Ho Shon et al., 2008; Krug et al., 2008; Aloia et al., 2006; Gold et al., 2007; Tsao et al., 2004

Follow-Up:

Interval	B	II	Hofmann et al., 2002; Francken et al., 2008; Garbe et al., 2003; Dalal et al., 2007
Duration	B	II	DiFronzo et al., 1999; Ferrone et al., 2005; Francken et al., 2008;

Patient	Strength of Recommendation	Level of Evidence	References
skin/self-evaluation			Goggins & Tsao, 2003; McCaul et al., 2008 Pollitt et al., 2009; Moore et al., 2008
Imaging and laboratory tests	B	II	Hofmann et al., 2002; Bafounta et al., 2004; Machet et al., 2005; Garbe et al., 2003; Weiss et al., 1995; Morton, Craig, & Thompson, 2009
Surgical management			
In situ	C	III	No clinical trials
≤1.0-mm thickness	A	I	Veronesi, & Cascinelli, 1991; Veronesi et al., 1988; Cascinelli, 1998; Ringborg et al., 1996; Cohn-Cedermark et al., 2000; Khayat et al., 2003
1.01- to 2-mm thickness	A	I	Balch et al., 2000; Lens, Nathan, & Bataille, 2007; Veronesi, & Cascinelli, 1991; Veronesi et al., 1988; Cascinelli, 1998; Ringborg et al., 1996; Cohn-Cedermark et al., 2000; Khayat et al., 2003; Karakousis et al., 1996; Balch et al., 1993
>2-mm thickness	B	I-III	Balch et al., 2000; Karakousis et al., 1996; Balch et al., 1993; Heaton et al., 1998
Non-surgical treatments:			
Imiquimod	C	III	Buettiker et al., 2008; Cotter, McKenna, & Bowen. 2008; Naylor et al., 2003; Powell et al., 2009; Spenny et al., 2007
Radiotherapy	C	III	Schmid-Wendtner et al., 2000; Tsang et al., 1994; Farshad et al., 2002; Harwood, 1983
Cryosurgery	C	III	Kuflik & Gage, 1994; Collins et al., 1991; Bohler-Sommeregger et al., 1992; Dawber & Wilkinson, 1979; Zacarian et al., 1982
Sentinel lymph node biopsy	B	I-III	Balch et al., 2009; Mattsson et al., 2008; Rossi et al., 2006; Testori et al., 2009; Gershenwald et al., 2000; Ferrone et al., 2002; Morton et al., 2006; Kingham et al., 2010; Nowecki, Rutkowski, & Michej, 2008; Wong et al., 2006; Bleicher et al., 2003; Ranieri et al., 2006; Warycha et al., 2009; Wong et al., 2005; Wright et al., 2008; Gutzmer et al., 2008

Recommendations for Biopsy

- Preferred biopsy technique is narrow excisional biopsy that encompasses entire breadth of lesion with clinically negative margins to depth sufficient to ensure that lesion is not transected, which may be accomplished by elliptical or punch excision with sutures, or shave removal to depth below anticipated plane of lesion.
- Partial sampling (incisional biopsy) is acceptable in select clinical circumstances such as facial or acral location, low clinical suspicion or uncertainty of diagnosis, or very large lesion.
- Repeat biopsy is recommended if initial biopsy specimen is inadequate for diagnosis or microstaging of primary lesion.

Table: Recommended Clinical Information to Be Provided to Pathologist

Essential	Strongly Recommended	Optional
Age of Patient	Biopsy technique (excisional or incisional)	Clinical description and level of clinical suspicion
Gender	Size of lesion	Dermatoscopic features
Anatomic location		Photograph
		Macroscopic satellitosis

Table: Recommended Histologic Features of Primary Melanoma to Be Included in Pathology Report

Essential	Optional
Tumor (Breslow) thickness, mm	Angiolymphatic invasion
Ulceration	Histologic subtype
Dermal mitotic rate, mitoses/mm ²	Neurotropism
Peripheral and deep margin status (positive or negative)	Regression
Anatomic level of invasion (Clark level)*	T-stage classification
Microsatellitosis	Tumor infiltrating lymphocytes
	Vertical growth phase

*Essential for staging only in tumors ≤ 1 mm in thickness when mitotic rate cannot be assessed; optional for tumors > 1 mm in thickness.

Recommendations for Staging Workup and Follow-up

- Baseline laboratory tests and imaging studies are generally not recommended in asymptomatic patients with newly diagnosed primary melanoma of any thickness.
- No clear data regarding follow-up interval exist, but at least annual history and physical examination with attention to skin and lymph nodes is recommended.
- Regular clinical follow-up and interval patient self-examination of skin and regional lymph nodes are most important means of detecting recurrent disease or new primary melanoma; findings from history and physical examination should direct need for further studies to detect local, regional, and distant metastasis.
- Surveillance laboratory tests and imaging studies in asymptomatic patients with melanoma have low yield for detection of metastatic disease and are associated with relatively high false-positive rates.

Table: Surgical Margin Recommendations for Primary Cutaneous Melanoma

Tumor Thickness	Clinically Measured Surgical Margin*
In situ	0.5–1.0 cm
≤ 1.0 mm	1 cm
1.01–2.0 mm	1–2 cm
> 2.0 mm	2 cm

*Wider margins may be necessary for lentigo maligna subtype.

Recommendations for Surgical Management

- Treatment of choice for primary cutaneous melanoma of any thickness is surgical excision with histologically negative margins.
- Surgical margins for invasive melanoma should be at least 1 cm and no more than 2 cm clinically measured around primary tumor; clinically measured surgical margins do not need to correlate with histologically negative margins.

- For melanoma in situ, wide excision with 0.5- to 1.0-cm margins is recommended; lentigo maligna histologic subtype may require >0.5-cm margins to achieve histologically negative margins, because of characteristically broad subclinical extension.

Recommendations for Nonsurgical Treatments

- Nonsurgical therapy for primary cutaneous melanoma should only be considered under select clinical circumstances, when surgical excision is not feasible.
- Alternatives to surgery include topical imiquimod, radiation therapy, cryosurgery, and observation.
- Efficacy of nonsurgical therapies for lentigo maligna has not been fully established.

Recommendations for Sentinel Lymph Node Biopsy (SLNB)

- Status of sentinel lymph node (SLN) is most important prognostic indicator for disease-specific survival in patients with primary cutaneous melanoma; impact of SLNB on overall survival remains unclear.
- SLNB is not recommended for patients with melanoma in situ or T1a melanoma.
- SLNB should be considered in patients with melanoma >1 mm in tumor thickness.
- In patients with T1b melanoma, 0.76–1.00 mm in tumor thickness, SLNB should be discussed; in T1b melanoma, with tumor thickness ≤0.75 mm, SLNB should generally not be considered, unless other adverse parameters in addition to ulceration or increased mitotic rate are present, such as angiolymphatic invasion, positive deep margin, or young age.

Definitions:

Level of Evidence

- I. Good-quality patient-oriented evidence (i.e., evidence measuring outcomes that matter to patients: morbidity, mortality, symptom improvement, cost reduction, and quality of life)
- II. Limited-quality patient-oriented evidence
- III. Other evidence including consensus guidelines, opinion, case studies, or disease-oriented evidence (i.e., evidence measuring intermediate, physiologic, or surrogate end points that may or may not reflect improvements in patient outcomes)

Grade of Recommendation

- A. Recommendation based on consistent and good quality patient-oriented evidence
- B. Recommendation based on inconsistent or limited quality patient-oriented evidence
- C. Recommendation based on consensus, opinion, or case studies

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Primary cutaneous melanoma (including those in the nail unit)

Note: The guideline does not address primary melanoma of the mucous membranes.

Guideline Category

Diagnosis

Management

Treatment

Clinical Specialty

Dermatology

Family Practice

Oncology

Pathology

Surgery

Intended Users

Physicians

Guideline Objective(s)

To address the treatment of patients with primary cutaneous melanoma (including those in the nail unit), who may also have clinical or histologic evidence of regional disease, from the perspective of the U.S. dermatologist

Target Population

Patients with primary cutaneous melanoma (including those in the nail unit), who may also have clinical or histologic evidence of regional disease

Interventions and Practices Considered

Diagnosis/Evaluation

1. Biopsy technique
 - Excision of lesion with narrow margins
 - Incisional biopsy in selected cases
 - Repeat biopsy if initial biopsy specimen is inadequate for accurate histologic diagnosis or staging
2. Clinical and histologic information to be included in pathology report
3. Baseline and surveillance laboratory tests and imaging studies (generally not recommended)

Treatment/Management

1. Surgical excision (surgical margins based on tumor thickness)
2. Nonsurgical treatments
 - Imiquimod
 - Radiation therapy
 - Cryosurgery
 - Observation
3. Sentinel lymph node biopsy
4. Routine follow-up (history and physical examination) at least annually

Major Outcomes Considered

- Morbidity and mortality
- Local recurrence of melanoma
- Detection of occult metastatic disease
- Prognostic value of histologic characteristics
- Survival

- Quality of life

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

A work group of recognized melanoma experts was convened to determine the audience and scope of the guideline, and identify important clinical questions in the management of primary cutaneous melanoma (see Table I in the original guideline document).

An evidence-based model was used and evidence was obtained using a search of the PubMed database spanning the years 2000 through 2010 for clinical questions addressed in the previous version of this guideline published in 2001, and 1960 to 2010 for all newly identified clinical questions. Only English-language publications were reviewed. Published guidelines on melanoma were also evaluated.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus (Committee)

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Evidence was graded using a 3-point scale based on the quality of methodology as follows:

- I. Good-quality patient-oriented evidence (i.e., evidence measuring outcomes that matter to patients: morbidity, mortality, symptom improvement, cost reduction, and quality of life)
- II. Limited-quality patient-oriented evidence
- III. Other evidence including consensus guidelines, opinion, case studies, or disease-oriented evidence (i.e., evidence measuring intermediate, physiologic, or surrogate end points that may or may not reflect improvements in patient outcomes)

Methods Used to Analyze the Evidence

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The available evidence was evaluated using a unified system called the Strength of Recommendation Taxonomy developed by editors of the United States (U.S.) family medicine and primary care journals (i.e., *American Family Physician*, *Family Medicine*, *Journal of Family Practice*, and *BMJ USA*). This strategy was supported by a decision of the Clinical Guidelines Task Force in 2005 with some minor modifications for a consistent approach to rating the strength of the evidence of scientific studies.

Methods Used to Formulate the Recommendations

Description of Methods Used to Formulate the Recommendations

Clinical recommendations were developed on the best available evidence tabled in the guideline. In those situations where documented evidence-based data are not available, expert opinion was used to generate clinical recommendations.

Rating Scheme for the Strength of the Recommendations

- A. Recommendation based on consistent and good quality patient-oriented evidence
- B. Recommendation based on inconsistent or limited quality patient-oriented evidence
- C. Recommendation based on consensus, opinion, or case studies

Cost Analysis

Published cost analyses were reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This guideline has been developed in accordance with the American Academy of Dermatology (AAD)/AAD Association "Administrative Regulations for Evidence-based Clinical Practice Guidelines" (version approved March 2009), which include the opportunity for review and comment by the entire AAD membership and final review and approval by the AAD Board of Directors.

Evidence Supporting the Recommendations

References Supporting the Recommendations

Aloia TA, Gershenwald JE, Andtbacka RH, Johnson MM, Schacherer CW, Ng CS, Cormier JN, Lee JE, Ross MI, Mansfield PF. Utility of computed tomography and magnetic resonance imaging staging before completion lymphadenectomy in patients with sentinel lymph node-positive melanoma. *J Clin Oncol*. 2006 Jun 20;24(18):2858-65. [PubMed](#)

Armour K, Mann S, Lee S. Dysplastic naevi: to shave, or not to shave? A retrospective study of the use of the shave biopsy technique in the initial management of dysplastic naevi. *Australas J Dermatol*. 2005 May;46(2):70-5. [PubMed](#)

Austin JR, Byers RM, Brown WD, Wolf P. Influence of biopsy on the prognosis of cutaneous melanoma of the head and neck. *Head Neck*. 1996 Mar-Apr;18(2):107-17. [PubMed](#)

Azzola MF, Shaw HM, Thompson JF, Soong SJ, Scolyer RA, Watson GF, Colman MH, Zhang Y. Tumor mitotic rate is a more powerful prognostic indicator than ulceration in patients with primary cutaneous melanoma: an analysis of 3661 patients from a single center. *Cancer*. 2003 Mar 15;97(6):1488-98. [PubMed](#)

Bafounta ML, Beauchet A, Chagnon S, Saiag P. Ultrasonography or palpation for detection of melanoma nodal invasion: a meta-analysis.

Balch CM, Gershenwald JE, Soong SJ, Thompson JF, Atkins MB, Byrd DR, Buzaid AC, Cochran AJ, Coit DG, Ding S, Eggermont AM, Flaherty KT, Gimotty PA, Kirkwood JM, McMasters KM, Mihm MC Jr, Morton DL, Ross MI, Sober AJ, Sondak VK. Final version of 2009 AJCC melanoma staging and classification. *J Clin Oncol.* 2009 Dec 20;27(36):6199-206. [PubMed](#)

Balch CM, Soong S, Ross MI, Urist MM, Karakousis CP, Temple WJ, Mihm MC, Barnhill RL, Jewell WR, Wanebo HJ, Harrison R. Long-term results of a multi-institutional randomized trial comparing prognostic factors and surgical results for intermediate thickness melanomas (1.0 to 4.0 mm). Intergroup Melanoma Surgical Trial. *Ann Surg Oncol.* 2000 Mar;7(2):87-97. [PubMed](#)

Balch CM, Urist MM, Karakousis CP, Smith TJ, Temple WJ, Drzewiecki K, Jewell WR, Bartolucci AA, Mihm MC Jr, Barnhill R, et al. Efficacy of 2-cm surgical margins for intermediate-thickness melanomas (1 to 4 mm). Results of a multi-institutional randomized surgical trial. *Ann Surg.* 1993 Sep;218(3):262-7; discussion 267-9. [PubMed](#)

Barnhill RL, Fine JA, Roush GC, Berwick M. Predicting five-year outcome for patients with cutaneous melanoma in a population-based study. *Cancer.* 1996 Aug 1;78(3):427-32. [PubMed](#)

Barnhill RL, Katzen J, Spatz A, Fine J, Berwick M. The importance of mitotic rate as a prognostic factor for localized cutaneous melanoma. *J Cutan Pathol.* 2005 Apr;32(4):268-73. [PubMed](#)

Bleicher RJ, Essner R, Foshag LJ, Wanek LA, Morton DL. Role of sentinel lymphadenectomy in thin invasive cutaneous melanomas. *J Clin Oncol.* 2003 Apr 1;21(7):1326-31. [PubMed](#)

Bohler-Sommeregger K, Schuller-Petrovic S, Neumann R, Muller E. Cryosurgery of lentigo maligna. *Plast Reconstr Surg.* 1992 Sep;90(3):436-40; discussion 441-4. [PubMed](#)

Bong JL, Herd RM, Hunter JA. Incisional biopsy and melanoma prognosis. *J Am Acad Dermatol.* 2002 May;46(5):690-4. [PubMed](#)

Buettiker UV, Yawalkar NY, Braathen LR, Hunger RE. Imiquimod treatment of lentigo maligna: an open-label study of 34 primary lesions in 32 patients. *Arch Dermatol.* 2008 Jul;144(7):943-5. [PubMed](#)

Cascinelli N. Margin of resection in the management of primary melanoma. *Semin Surg Oncol.* 1998 Jun;14(4):272-5. [PubMed](#)

Clark WH Jr, Elder DE, Guerry D 4th, Braitman LE, Trock BJ, Schultz D, Synnestvedt M, Halpern AC. Model predicting survival in stage I melanoma based on tumor progression. *J Natl Cancer Inst.* 1989 Dec 20;81(24):1893-904. [PubMed](#)

Clemente CG, Mihm MC Jr, Bufalino R, Zurrida S, Collini P, Cascinelli N. Prognostic value of tumor infiltrating lymphocytes in the vertical growth phase of primary cutaneous melanoma. *Cancer.* 1996 Apr 1;77(7):1303-10. [PubMed](#)

Cochran AJ, Elashoff D, Morton DL, Elashoff R. Individualized prognosis for melanoma patients. *Hum Pathol.* 2000 Mar;31(3):327-31. [PubMed](#)

Cohn-Cedermark G, Rutqvist LE, Andersson R, Breivald M, Ingvar C, Johansson H, Jonsson PE, Krysander L, Lindholm C, Ringborg U. Long term results of a randomized study by the Swedish Melanoma Study Group on 2-cm versus 5-cm resection margins for patients with

cutaneous melanoma with a tumor thickness of 0.8-2.0 mm. *Cancer*. 2000 Oct 1;89(7):1495-501. [PubMed](#)

Collins P, Rogers S, Goggin M, Manning W. Cryotherapy for lentigo maligna. *Clin Exp Dermatol*. 1991 Nov;16(6):433-5. [PubMed](#)

Corona R, Scio M, Mele A, Ferranti G, Mostaccioli S, Macchini V, Sonego G, Ferrigno L, Fucci M, Osborn JF, et al.. Survival and prognostic factors in patients with localised cutaneous melanoma observed between 1980 and 1991 at the Istituto Dermopatico dell'Immacolata in Rome, Italy. *Eur J Cancer*. 1994;30A(3):333-8. [PubMed](#)

Cotter MA, McKenna JK, Bowen GM. Treatment of lentigo maligna with imiquimod before staged excision. *Dermatol Surg*. 2008 Feb;34(2):147-51. [PubMed](#)

Dalal KM, Patel A, Brady MS, Jaques DP, Coit DG. Patterns of first-recurrence and post-recurrence survival in patients with primary cutaneous melanoma after sentinel lymph node biopsy. *Ann Surg Oncol*. 2007 Jun;14(6):1934-42. [PubMed](#)

Dawber RP, Wilkinson JD. Melanotic freckle of Hutchinson: treatment of macular and nodular phases with cryotherapy. *Br J Dermatol*. 1979 Jul;101(1):47-9. [PubMed](#)

DiFronzo LA, Wanek LA, Elashoff R, Morton DL. Increased incidence of second primary melanoma in patients with a previous cutaneous melanoma. *Ann Surg Oncol*. 1999 Oct-Nov;6(7):705-11. [PubMed](#)

Eigentler TK, Buettner PG, Leiter U, Garbe C, Central Malignant Melanoma Registry of the German Dermatological Society. Impact of ulceration in stages I to III cutaneous melanoma as staged by the American Joint Committee on Cancer Staging System: an analysis of the German Central Malignant Melanoma Registry. *J Clin Oncol*. 2004 Nov 1;22(21):4376-83. [PubMed](#)

Ekdh J, Boeryd B, Peterson LE. Prognostic factors in cutaneous malignant melanoma in stage I. A clinical, morphological and multivariate analysis. *Scand J Plast Reconstr Surg*. 1978;12(3):243-55. [PubMed](#)

Farshad A, Burg G, Panizzon R, Dummer R. A retrospective study of 150 patients with lentigo maligna and lentigo maligna melanoma and the efficacy of radiotherapy using Grenz or soft X-rays. *Br J Dermatol*. 2002 Jun;146(6):1042-6. [PubMed](#)

Ferrone CR, Ben Porat L, Panageas KS, Berwick M, Halpern AC, Patel A, Coit DG. Clinicopathological features of and risk factors for multiple primary melanomas. *JAMA*. 2005 Oct 5;294(13):1647-54. [PubMed](#)

Ferrone CR, Panageas KS, Busam K, Brady MS, Coit DG. Multivariate prognostic model for patients with thick cutaneous melanoma: importance of sentinel lymph node status. *Ann Surg Oncol*. 2002 Aug;9(7):637-45. [PubMed](#)

Fogarty GB, Tartaglia C. The utility of magnetic resonance imaging in the detection of brain metastases in the staging of cutaneous melanoma. *Clin Oncol (R Coll Radiol)*. 2006 May;18(4):360-2. [PubMed](#)

Francken AB, Accortt NA, Shaw HM, Colman MH, Wiener M, Soong SJ, Hoekstra HJ, Thompson JF. Follow-up schedules after treatment for malignant melanoma. *Br J Surg*. 2008 Nov;95(11):1401-7. [PubMed](#)

Francken AB, Shaw HM, Thompson JF, Soong SJ, Accortt NA, Azzola MF, Scolyer RA, Milton GW, McCarthy WH, Colman MH, McGovern VJ. The prognostic importance of tumor mitotic rate confirmed in 1317 patients with primary cutaneous melanoma and long follow-

up. Ann Surg Oncol. 2004 Apr;11(4):426-33. PubMed

Garbe C, Paul A, Kohler-Spath H, Ellwanger U, Stroebel W, Schwarz M, Schlagenhauff B, Meier F, Schittek B, Blaheta HJ, Blum A, Rassner G. Prospective evaluation of a follow-up schedule in cutaneous melanoma patients: recommendations for an effective follow-up strategy. J Clin Oncol. 2003 Feb 1;21(3):520-9. [PubMed](#)

Gershenwald JE, Mansfield PF, Lee JE, Ross MI. Role for lymphatic mapping and sentinel lymph node biopsy in patients with thick (> or = 4 mm) primary melanoma. Ann Surg Oncol. 2000 Mar;7(2):160-5. [PubMed](#)

Gimotty PA, Guerry D, Ming ME, Elenitas R, Xu X, Czerniecki B, Spitz F, Schuchter L, Elder D. Thin primary cutaneous malignant melanoma: a prognostic tree for 10-year metastasis is more accurate than American Joint Committee on Cancer staging. J Clin Oncol. 2004 Sep 15;22(18):3668-76. [PubMed](#)

Goggins WB, Tsao H. A population-based analysis of risk factors for a second primary cutaneous melanoma among melanoma survivors. Cancer. 2003 Feb 1;97(3):639-43. [PubMed](#)

Gold JS, Jaques DP, Busam KJ, Brady MS, Coit DG. Yield and predictors of radiologic studies for identifying distant metastases in melanoma patients with a positive sentinel lymph node biopsy. Ann Surg Oncol. 2007 Jul;14(7):2133-40. [PubMed](#)

Gutzmer R, Satzger I, Thoms KM, Volker B, Mitteldorf C, Kapp A, Bertsch HP, Kretschmer L. Sentinel lymph node status is the most important prognostic factor for thick (> or = 4 mm) melanomas. J Dtsch Dermatol Ges. 2008 Mar;6(3):198-203. [PubMed](#)

Hafner J, Schmid MH, Kempf W, Burg G, Kunzi W, Meuli-Simmen C, Neff P, Meyer V, Mihic D, Garzoli E, Jungius KP, Seifert B, Dummer R, Steinert H. Baseline staging in cutaneous malignant melanoma. Br J Dermatol. 2004 Apr;150(4):677-86. [PubMed](#)

Halpern AC, Schuchter LM. Prognostic models in melanoma. Semin Oncol. 1997 Feb;24(1 Suppl 4):S2-7. [PubMed](#)

Harwood AR. Conventional fractionated radiotherapy for 51 patients with lentigo maligna and lentigo maligna melanoma. Int J Radiat Oncol Biol Phys. 1983 Jul;9(7):1019-21. [PubMed](#)

Heaton KM, Sussman JJ, Gershenwald JE, Lee JE, Reintgen DS, Mansfield PF, Ross MI. Surgical margins and prognostic factors in patients with thick (>4mm) primary melanoma. Ann Surg Oncol. 1998 Jun;5(4):322-8. [PubMed](#)

Ho Shon IA, Chung DK, Saw RP, Thompson JF. Imaging in cutaneous melanoma. Nucl Med Commun. 2008 Oct;29(10):847-76. [231 references] [PubMed](#)

Hofmann U, Szedlak M, Rittgen W, Jung EG, Schadendorf D. Primary staging and follow-up in melanoma patients--monocenter evaluation of methods, costs and patient survival. Br J Cancer. 2002 Jul 15;87(2):151-7. [PubMed](#)

Karakousis CP, Balch CM, Urist MM, Ross MM, Smith TJ, Bartolucci AA. Local recurrence in malignant melanoma: long-term results of the multiinstitutional randomized surgical trial. Ann Surg Oncol. 1996 Sep;3(5):446-52. [PubMed](#)

Karimpour DJ, Schwartz JL, Wang TS, Bichakjian CK, Orringer JS, King AL, Huang CC, Johnson TM. Microstaging accuracy after subtotal incisional biopsy of cutaneous melanoma. J Am Acad Dermatol. 2005 May;52(5):798-802. [PubMed](#)

Khayat D, Rixe O, Martin G, Soubrane C, Banzet M, Bazex JA, Lauret P, Verola O, Auclerc G, Harper P, Banzet P, French Group of Research on Malignant Melanoma. Surgical margins in cutaneous melanoma (2 cm versus 5 cm for lesions measuring less than 2.1-mm thick). *Cancer*. 2003 Apr 15;97(8):1941-6. [PubMed](#)

Kimsey TF, Cohen T, Patel A, Busam KJ, Brady MS. Microscopic satellitosis in patients with primary cutaneous melanoma: implications for nodal basin staging. *Ann Surg Oncol*. 2009 May;16(5):1176-83. [PubMed](#)

Kingham TP, Panageas KS, Ariyan CE, Busam KJ, Brady MS, Coit DG. Outcome of patients with a positive sentinel lymph node who do not undergo completion lymphadenectomy. *Ann Surg Oncol*. 2010 Feb;17(2):514-20. [PubMed](#)

Krug B, Crott R, Lonneux M, Baurain JF, Pirson AS, Vander Borght T. Role of PET in the initial staging of cutaneous malignant melanoma: systematic review. *Radiology*. 2008 Dec;249(3):836-44. [89 references] [PubMed](#)

Kuflik EG, Gage AA. Cryosurgery for lentigo maligna. *J Am Acad Dermatol*. 1994 Jul;31(1):75-8. [PubMed](#)

Lederman JS, Sober AJ. Does biopsy type influence survival in clinical stage I cutaneous melanoma. *J Am Acad Dermatol*. 1985 Dec;13(6):983-7. [PubMed](#)

Lees VC, Briggs JC. Effect of initial biopsy procedure on prognosis in Stage 1 invasive cutaneous malignant melanoma: review of 1086 patients. *Br J Surg*. 1991 Sep;78(9):1108-10. [PubMed](#)

Leiter U, Buettner PG, Eigentler TK, Garbe C. Prognostic factors of thin cutaneous melanoma: an analysis of the central malignant melanoma registry of the german dermatological society. *J Clin Oncol*. 2004 Sep 15;22(18):3660-7. [PubMed](#)

Lens MB, Nathan P, Bataille V. Excision margins for primary cutaneous melanoma: updated pooled analysis of randomized controlled trials. *Arch Surg*. 2007 Sep;142(9):885-91; discussion 891-3. [PubMed](#)

Levi F, Randimbison L, La Vecchia C, Te VC, Franceschi S. Prognostic factors for cutaneous malignant melanoma in Vaud, Switzerland. *Int J Cancer*. 1998 Oct 29;78(3):315-9. [PubMed](#)

Machet L, Nemeth-Normand F, Giraudeau B, Perrinaud A, Tiguemounine J, Ayoub J, Alison D, Vaillant L, Lorette G. Is ultrasound lymph node examination superior to clinical examination in melanoma follow-up? A monocentre cohort study of 373 patients. *Br J Dermatol*. 2005 Jan;152(1):66-70. [PubMed](#)

Mansson-Brahme E, Carstensen J, Erhardt K, Lagerlof B, Ringborg U, Rutqvist LE. Prognostic factors in thin cutaneous malignant melanoma. *Cancer*. 1994 May 1;73(9):2324-32. [PubMed](#)

Marghoob AA, Koenig K, Bittencourt FV, Kopf AW, Bart RS. Breslow thickness and Clark level in melanoma: support for including level in pathology reports and in American Joint Committee on Cancer Staging. *Cancer*. 2000 Feb 1;88(3):589-95. [PubMed](#)

Martin RC 2nd, Scoggins CR, Ross MI, Reintgen DS, Noyes RD, Edwards MJ, McMasters KM. Is incisional biopsy of melanoma harmful. *Am J Surg*. 2005 Dec;190(6):913-7. [PubMed](#)

Massi D, Borgognoni L, Franchi A, Martini L, Reali UM, Santucci M. Thick cutaneous malignant melanoma: a reappraisal of prognostic factors. *Melanoma Res.* 2000 Apr;10(2):153-64. [PubMed](#)

Massi D, Franchi A, Borgognoni L, Reali UM, Santucci M. Thin cutaneous malignant melanomas (< or =1.5 mm): identification of risk factors indicative of progression. *Cancer.* 1999 Mar 1;85(5):1067-76. [PubMed](#)

Mattsson J, Bergkvist L, Abdiu A, Aili Low JF, Naredi P, Ullberg K, Garperud U, Hakansson A, Ingvar C. Sentinel node biopsy in malignant melanoma: Swedish experiences 1997-2005. *Acta Oncol.* 2008;47(8):1519-25. [PubMed](#)

McCaul KA, Fritsch L, Baade P, Coory M. The incidence of second primary invasive melanoma in Queensland, 1982-2003. *Cancer Causes Control.* 2008 Jun;19(5):451-8. [PubMed](#)

Miranda EP, Gertner M, Wall J, Grace E, Kashani-Sabet M, Allen R, Leong SP. Routine imaging of asymptomatic melanoma patients with metastasis to sentinel lymph nodes rarely identifies systemic disease. *Arch Surg.* 2004 Aug;139(8):831-6; discussion 836-7. [PubMed](#)

Moore Dalal K, Zhou Q, Panageas KS, Brady MS, Jaques DP, Coit DG. Methods of detection of first recurrence in patients with stage I/II primary cutaneous melanoma after sentinel lymph node biopsy. *Ann Surg Oncol.* 2008 Aug;15(8):2206-14. [PubMed](#)

Morton DL, Thompson JF, Cochran AJ, Mozzillo N, Elashoff R, Essner R, Nieweg OE, Roses DF, Hoekstra HJ, Karakousis CP, Reintgen DS, Coventry BJ, Glass EC, Wang HJ, MSLT Group. Sentinel-node biopsy or nodal observation in melanoma. *N Engl J Med.* 2006 Sep 28;355(13):1307-17. [PubMed](#)

Morton RL, Craig JC, Thompson JF. The role of surveillance chest X-rays in the follow-up of high-risk melanoma patients. *Ann Surg Oncol.* 2009 Mar;16(3):571-7. [PubMed](#)

Nagore E, Oliver V, Botella-Estrada R, Moreno-Picot S, Insa A, Fortea JM. Prognostic factors in localized invasive cutaneous melanoma: high value of mitotic rate, vascular invasion and microscopic satellitosis. *Melanoma Res.* 2005 Jun;15(3):169-77. [PubMed](#)

Naylor MF, Crowson N, Kuwahara R, Teague K, Garcia C, Mackinnis C, Haque R, Odom C, Jankey C, Cornelison RL. Treatment of lentigo maligna with topical imiquimod. *Br J Dermatol.* 2003 Nov;149(Suppl):66-70. [PubMed](#)

Ng JC, Swain S, Dowling JP, Wolfe R, Simpson P, Kelly JW. The impact of partial biopsy on histopathologic diagnosis of cutaneous melanoma: experience of an Australian tertiary referral service. *Arch Dermatol.* 2010 Mar;146(3):234-9. [PubMed](#)

Ng PC, Barzilai DA, Ismail SA, Averette RL Jr, Gilliam AC. Evaluating invasive cutaneous melanoma: is the initial biopsy representative of the final depth. *J Am Acad Dermatol.* 2003 Mar;48(3):420-4. [PubMed](#)

Nowecki ZI, Rutkowski P, Michej W. The survival benefit to patients with positive sentinel node melanoma after completion lymph node dissection may be limited to the subgroup with a primary lesion Breslow thickness greater than 1.0 and less than or equal to 4 mm (pT2-pT3). *Ann Surg Oncol.* 2008 Aug;15(8):2223-34. [PubMed](#)

Pariser RJ, Divers A, Nassar A. The relationship between biopsy technique and uncertainty in the histopathologic diagnosis of melanoma. *Dermatol Online J.* 1999 Nov;5(2):4. [PubMed](#)

Pollitt RA, Geller AC, Brooks DR, Johnson TM, Park ER, Swetter SM. Efficacy of skin self-examination practices for early melanoma detection. *Cancer Epidemiol Biomarkers Prev.* 2009 Nov;18(11):3018-23. [PubMed](#)

Powell AM, Robson AM, Russell-Jones R, Barlow RJ. Imiquimod and lentigo maligna: a search for prognostic features in a clinicopathological study with long-term follow-up. *Br J Dermatol.* 2009 May;160(5):994-8. [PubMed](#)

Ranieri JM, Wagner JD, Wenck S, Johnson CS, Coleman JJ 3rd. The prognostic importance of sentinel lymph node biopsy in thin melanoma. *Ann Surg Oncol.* 2006 Jul;13(7):927-32. [PubMed](#)

Rao UN, Ibrahim J, Flaherty LE, Richards J, Kirkwood JM. Implications of microscopic satellites of the primary and extracapsular lymph node spread in patients with high-risk melanoma: pathologic corollary of Eastern Cooperative Oncology Group Trial E1690. *J Clin Oncol.* 2002 Apr 15;20(8):2053-7. [PubMed](#)

Ringborg U, Andersson R, Eldh J, Glaumann B, Hafstrom L, Jacobsson S, Jonsson PE, Johansson H, Krysander L, Lagerlof B. Resection margins of 2 versus 5 cm for cutaneous malignant melanoma with a tumor thickness of 0.8 to 2.0 mm: randomized study by the Swedish Melanoma Study Group. *Cancer.* 1996 May 1;77(9):1809-14. [PubMed](#)

Rossi CR, De Salvo GL, Trifiro G, Mocellin S, Landi G, Macripo G, Carcoforo P, Ricotti G, Giudice G, Picciotto F, Donner D, Di Filippo F, Montesco MC, Casara D, Schiavon M, Foletto M, Baldini F, Testori A. The impact of lymphoscintigraphy technique on the outcome of sentinel node biopsy in 1,313 patients with cutaneous melanoma: an Italian Multicentric Study (SOLISM-IMI). *J Nucl Med.* 2006 Feb;47(2):234-41. [PubMed](#)

Sahin S, Rao B, Kopf AW, Lee E, Rigel DS, Nossa R, Rahman IJ, Wortzel H, Marghoob AA, Bart RS. Predicting ten-year survival of patients with primary cutaneous melanoma: corroboration of a prognostic model. *Cancer.* 1997 Oct 15;80(8):1426-31. [PubMed](#)

Schmid-Wendtner MH, Brunner B, Konz B, Kaudewitz P, Wendtner CM, Peter RU, Plewig G, Volkenandt M. Fractionated radiotherapy of lentigo maligna and lentigo maligna melanoma in 64 patients. *J Am Acad Dermatol.* 2000 Sep;43(3):477-82. [PubMed](#)

Schuchter L, Schultz DJ, Synnestvedt M, Trock BJ, Guerry D, Elder DE, Elenitsas R, Clark WH, Halpern AC. A prognostic model for predicting 10-year survival in patients with primary melanoma. The Pigmented Lesion Group. *Ann Intern Med.* 1996 Sep 1;125(5):369-75. [PubMed](#)

Shaikh L, Sagebiel RW, Ferreira CM, Nosrati M, Miller JR 3rd, Kashani-Sabet M. The role of microsatellites as a prognostic factor in primary malignant melanoma. *Arch Dermatol.* 2005 Jun;141(6):739-42. [PubMed](#)

Spenny ML, Walford J, Werchniak AE, Beltrani V, Brennick JB, Storm CA, Perry AE, Chapman MS. Lentigo maligna (melanoma in situ) treated with imiquimod cream 5%: 12 case reports. *Cutis.* 2007 Feb;79(2):149-52. [PubMed](#)

Stell VH, Norton HJ, Smith KS, Salo JC, White RL Jr. Method of biopsy and incidence of positive margins in primary melanoma. *Ann Surg Oncol.* 2007 Feb;14(2):893-8. [PubMed](#)

Straume O, Akslen LA. Independent prognostic importance of vascular invasion in nodular melanomas. *Cancer.* 1996 Sep 15;78(6):1211-9. [PubMed](#)

Taran JM, Heenan PJ. Clinical and histologic features of level 2 cutaneous malignant melanoma associated with metastasis. *Cancer*. 2001 May 1;91(9):1822-5. [PubMed](#)

Testori A, De Salvo GL, Montesco MC, Trifiro G, Mocellin S, Landi G, Macripo G, Carcoforo P, Ricotti G, Giudice G, Picciotto F, Donner D, Di Filippo F, Soteldo J, Casara D, Schiavon M, Vecchiato A, Pasquali S, Baldini F, Mazzarol G, Rossi CR, Italian Melanoma Intergroup. Clinical considerations on sentinel node biopsy in melanoma from an Italian multicentric study on 1,313 patients (SOLISM-IMI). *Ann Surg Oncol*. 2009 Jul;16(7):2018-27. [PubMed](#)

Thorn M, Bergstrom R, Hedblad M, Lagerlof B, Ringborg U, Adami HO. Predictors of late mortality in cutaneous malignant melanoma--a population-based study in Sweden. *Int J Cancer*. 1996 Jul 3;67(1):38-44. [PubMed](#)

Tsang RW, Liu FF, Wells W, Payne DG. Lentigo maligna of the head and neck. Results of treatment by radiotherapy. *Arch Dermatol*. 1994 Aug;130(8):1008-12. [PubMed](#)

Tsao H, Feldman M, Fullerton JE, Sober AJ, Rosenthal D, Goggins W. Early detection of asymptomatic pulmonary melanoma metastases by routine chest radiographs is not associated with improved survival. *Arch Dermatol*. 2004 Jan;140(1):67-70. [PubMed](#)

Veronesi U, Cascinelli N, Adamus J, Balch C, Bandiera D, Barchuk A, Bufalino R, Craig P, De Marsillac J, Durand JC, et al. Thin stage I primary cutaneous malignant melanoma. Comparison of excision with margins of 1 or 3 cm. *N Engl J Med*. 1988 May 5;318(18):1159-62. [PubMed](#)

Veronesi U, Cascinelli N. Narrow excision (1-cm margin). A safe procedure for thin cutaneous melanoma. *Arch Surg*. 1991 Apr;126(4):438-41. [PubMed](#)

Wang TS, Johnson TM, Cascade PN, Redman BG, Sondak VK, Schwartz JL. Evaluation of staging chest radiographs and serum lactate dehydrogenase for localized melanoma. *J Am Acad Dermatol*. 2004 Sep;51(3):399-405. [PubMed](#)

Warycha MA, Zakrzewski J, Ni Q, Shapiro RL, Berman RS, Pavlick AC, Polsky D, Mazumdar M, Osman I. Meta-analysis of sentinel lymph node positivity in thin melanoma (less than or=1 mm). *Cancer*. 2009 Feb 15;115(4):869-79. [PubMed](#)

Weiss M, Loprinzi CL, Creagan ET, Dalton RJ, Novotny P, O'Fallon JR. Utility of follow-up tests for detecting recurrent disease in patients with malignant melanomas. *JAMA*. 1995 Dec 6;274(21):1703-5. [PubMed](#)

Wong SL, Kattan MW, McMasters KM, Coit DG. A nomogram that predicts the presence of sentinel node metastasis in melanoma with better discrimination than the American Joint Committee on Cancer staging system. *Ann Surg Oncol*. 2005 Apr;12(4):282-8. [PubMed](#)

Wong SL, Morton DL, Thompson JF, Gershenwald JE, Leong SP, Reintgen DS, Gutman H, Sabel MS, Carlson GW, McMasters KM, Tyler DS, Goydos JS, Eggermont AM, Nieweg OE, Cosimi AB, Riker AI, G Coit D. Melanoma patients with positive sentinel nodes who did not undergo completion lymphadenectomy: a multi-institutional study. *Ann Surg Oncol*. 2006 Jun;13(6):809-16. [PubMed](#)

Wright BE, Scheri RP, Ye X, Faries MB, Turner RR, Essner R, Morton DL. Importance of sentinel lymph node biopsy in patients with thin melanoma. *Arch Surg*. 2008 Sep;143(9):892-9; discussion 899-900. [PubMed](#)

Yancovitz M, Finelt N, Warycha MA, Christos PJ, Mazumdar M, Shapiro RL, Pavlick AC, Osman I, Polsky D, Berman RS. Role of

[radiologic imaging at the time of initial diagnosis of stage T1b-T3b melanoma. Cancer. 2007 Sep 1;110\(5\):1107-14. PubMed](#)

Zacarian SA. Cryosurgical treatment of lentigo maligna. Arch Dermatol. 1982 Feb;118(2):89-92. [PubMed](#)

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for selected recommendations (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

- Improved early detection and management of primary cutaneous melanoma
- Reduced morbidity and mortality through the detection of asymptomatic metastases and additional primary melanomas

Potential Harms

- The limitations of all nonsurgical treatment modalities must clearly be discussed with patients when considering any alternative therapies, including the risk of missing and undertreating invasive melanoma by not microstaging the primary lesion; higher local recurrence rates because of a lack of margin control; and the absence of long-term, randomized, controlled comparative studies.
- As an adjunctive modality after surgical excision, the efficacy of topical imiquimod has not been established. High cost of treatment, an appropriate low threshold for subsequent biopsy to exclude residual or recurrent disease, and the risk of a severe inflammatory reaction should be taken into account when considering imiquimod.
- The impact of false-positive findings, whether by positron-emission tomography (PET), computed tomography, chest x-ray, or lactate dehydrogenase, that lead to unnecessary invasive procedures and substantial patient anxiety, should not be underestimated.
- Postoperative complications of sentinel lymph node biopsy

Qualifying Statements

Qualifying Statements

Adherence to these guidelines will not ensure successful treatment in every situation. Furthermore, these guidelines should not be interpreted as setting a standard of care, or be deemed inclusive of all proper methods of care nor exclusive of other methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding the propriety of any specific therapy must be made by the physician and the patient in light of all the circumstances presented by the individual patient, and the known variability and biological behavior of the disease. This guideline reflects the best available data at the time the guideline was prepared.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

For information about availability, see the *Availability of Companion Documents and Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Bichakjian CK, Halpern AC, Johnson TM, Foote Hood A, Grichnik JM, Swetter SM, Tsao H, Barbosa VH, Chuang TY, Duvic M, Ho VC, Sober AJ, Beutner KR, Bhushan R, Smith Begolka W, American Academy of Dermatology. Guidelines of care for the management of primary cutaneous melanoma. *J Am Acad Dermatol*. 2011 Nov;65(5):1032-47. [143 references] [PubMed](#)

Adaptation

Not applicable: The guideline was not adapted from another source.

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Guideline Developer(s)

American Academy of Dermatology - Medical Specialty Society

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Primary Cutaneous Melanoma Work Group

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Financial Disclosures/Conflicts of Interest

Work group members completed a disclosure of commercial support that was updated throughout guideline development.

Allan C. Halpern, MD, served on the Advisory Board for DermTech and Roche receiving other financial benefits, was a consultant with Canfield Scientific receiving other financial benefits, and was an investigator with Lucid, Inc receiving no compensation.

James M. Grichnik, MD, PhD, served as founder of Digital Derm Inc receiving stock and was consultant for Genentech, MELA Science, Inc and Spectral Image, In. receiving honoraria.

Hensin Tsao, MD, PhD, served as consultant for Genentech, Quest Diagnostics, SciBASE, and Metamark receiving honoraria.

Victoria Holloway Barbosa, MD, served as founder of Dermal Insights Inc receiving stocks, and as consultant for L'Oreal USA receiving other benefits, and served another role with Pierre Fabre receiving other benefits.

Madeleine Duvic, MD, served as investigator and on the advisory board for Allos and BioCryst receiving grants and honoraria, and as investigator and consultant for Celgene, Kyowa Hakko Kirin Pharma, and Merck receiving grants and honoraria, serving as consulting for Dermatex, Hoffman-La Roche, Millennium Pharmaceuticals, Vertex, and Upside Endeavers, LLC, receiving honoraria; serving as consultant, investigator, and speaker for Eisai receiving grants and honoraria, serving as investigator for Eli Lilly, Genmab, Hannah Biosciences, NAAF, Hobartis, OrthoBiotech MSK, Pfizer, Sloan Kettering, Spectrum, Therakos, Topotarget, and Yapon Therapeutics receiving grants and also as investigator for NIH receiving salary; served as a speaker for P4 Healthcare and Peer Direct receiving honoraria; and, lastly, served on advisory board for Quintiles Pharma and Seattle Genetics receiving honoraria.

Vincent C. Ho, MD, served on the advisory board and as an investigator and speaker for Abbott, Janssen Ortho and Schering, receiving grants and honoraria, served on advisory board and as investigator for Amgen receiving grants and honoraria, served on the advisory board for Astellas and Basilea receiving honoraria, and served as investigator for Centocor, Novartis and Pfizer receiving grants.

Arthur J. Sober, MD, served as a consultant for MelaScience receiving other benefits.

Karl R. Beutner, MD, PhD, Chair Clinical Research Committee, served as a consultant of Anacor receiving stock, stock options, and honoraria.

Christopher K. Bichakjian, MD, Timothy M. Johnson, MD, Antoinette Foote Hood, MD, Susan M. Swetter, MD, Tsu-Yi Chuang, MD, MPH, Reva Bhushan, MA, PhD, and Wendy Smith Begolka, MS, had no relevant conflicts of interest to disclose.

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Guidelines of care for primary cutaneous melanoma. J Am Acad Dermatol 2001 Oct;45(4):579-86. [44 references]

Guideline Availability

Electronic copies: Available in Portable Document Format (PDF) from American Academy of Dermatology Association Web site
[REDACTED]

Print copies: Available from AAD, PO Box 4014, Schaumburg, IL 60168-4014, (847) 330-0230 ext. 333; Fax (847) 330-1120; Web site, www.aad.org [REDACTED].

Availability of Companion Documents

None available

Patient Resources

The following is available:

- Melanoma. Available from the American Academy of Dermatology Web site [REDACTED].

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

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